

component is coupled to the program loading component. The program execution component is operative to execute the externally generated program stored in the optical reader to thereby perform a predetermined task, in accordance with the externally generated program.

Claim 16 is directed to an optical reader for scanning-decoding at least one optically encoded symbol. The optical reader includes a communications interface adapted to communicate with an external device. An imaging assembly scans the at least one optically encoded signal to thereby produce digital imaging data. The optical reader also includes processing means for receiving the digital imaging data from the imaging assembly, decoding the digital imaging data in accordance with an optical reader program stored in an optical reader memory, loading an externally generated program into the optical reader memory via the communications interface, and executing the externally generated program to thereby perform a new task.

Claim 19 is directed to a method for instructing an optical reader to perform a task it is not programmed to perform. The method includes loading an externally generated program into a memory located in the optical reader, and executing the externally generated program to perform the task.

Claim 34 is directed to a reprogrammable optical reader system that includes a programming source having at least one software program. The at least one software program corresponds to a predetermined task. A transmission facility is coupled to the programming source for transmitting the at least one software program. An optical reader is coupled to the transmission facility, whereby the optical reader receives and executes the at least one software program to thereby perform the predetermined task.

Claim 44 is directed to a method for reprogramming a first optical reader to thereby perform a task that can be performed by a second optical reader. The second optical reader is programmed to perform the task by a parameter table resident in the second optical reader. The method includes providing an optically encoded menu symbol corresponding to the parameter table, and scanning-decoding the optically encoded menu symbol with the first optical reader to thereby load the parameter table into the first optical reader.

Poland is directed to a bar code reader that can be reconfigured by scanning a bar code tag. The scanned bar code tags are recognized by an interpreter in the scanner. Each bar code tag encodes a character string command that is used to directly manipulate a given location in memory. See col. 3, lines 22-39. There are three different types of commands. The simplest type is a single scan command that includes one memory operation code which defines the

memory operation to be performed, a memory address which defines the location in memory to be manipulated, and an argument which defines the data to be stored in the memory location. See col. 6, lines 60- col. 7, line 9. This method can be used to change the baud rate of the serial port, for example. The other type of commands require multiple scans involving two or more symbols.

Haydon is directed to a method for identifying plug-in units that are used in a telecommunications facility. Haydon discloses a bar code scanner that includes a keyboard. The scanner may be used separately, or are while connected to a personal computer. The scanner can be programmed with data that identifies which plug-ins are to be scrapped, modified, or tested. This data may be input via the keyboard, or via the personal computer.

Elliott is directed to a bar code scanner system and a method for programming bar code scanners within the system. As shown in Figure 1, each bar code scanner may be connected to a host computer 10 by way of a serial data communications line 16. Elliott is directed to a retail application wherein the scanners in the system are disposed at check-out stations. As explained by Elliott, a number of bar codes have come into use such that it is possible to have two labels applied to the same product. Thus, the scanner must be able to distinguish pairs of labels, and which label is designated first, and which is designated as being the second label. This is accomplished by using a character set to identify the first label and the second label. However, it is difficult to change the character sets stored in memory. See col. 1, lines 38- 68. The object of the Elliott invention is to avoid using the host computer to store new control characters in memory. To that end, when switch 26 is thrown, scanner 12 is enabled to read control character bar codes such as those shown in Figure 3A and Figure 3B). After decoding, the control characters are stored in memory.

According to MPEP 2131, "to anticipate a claim, the reference must teach every element of the claim." A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

A. Claim 1 and claim 19:

Claim 1 is directed to an optical reader that includes a program loading component and a program execution component. Claim 19 is directed to a method that includes the steps of loading an externally generated program and executing the externally generated program. While Poland, Haydon, and Elliott disclose optical readers, they do not disclose readers that are adapted to loading an externally generated program and executing the externally generated

program. While Elliott and Haydon do teach scanner reconfiguration or reprogramming by loading control data via the scanner, neither Poland, Haydon, or Elliott teach, either expressly or inherently, a program loading component operative to store an externally generated software program in the optical reader. As those of ordinary skill in the art will appreciate, a “program” is a sequence of instructions used by a processor to perform a certain task. The sequence of instructions typically includes a header portion that has statements and declarations that are necessary for the proper execution of the program. Poland does not teach this feature because Poland’s device is configured to scan a bar code symbol which is merely an encoded character string. Thus, Poland teaches a system that loads one character string at a time. Haydon does not teach a program loading component because the system taught by Haydon is not operative to store externally generated programs. Haydon merely loads plug-in unit data. Elliott does not teach this claim element because Elliott teaches a system that reads a bar code symbol that is an encoded control character. As described above, the control character is used by the computer to obtain a character set which identifies the first label and the second label applied to a product. In other words, Elliott performs a reprogramming of sorts by changing the data used by the processor. However, Elliott does not teach a program loading component that stores externally generated program.

Neither Poland, Haydon, or Elliott teach, either expressly or inherently, a program execution component, coupled to a program loading component, that is operative to execute an externally generated program. As described above, each of the cited references teach a method for changing certain data stored in memory. For example, Poland scans a bar code symbol to input a character string to change, for example, the baud rate of the serial port. A new program is not executed. Haydon merely inputs plug-in data – no external program is loaded or executed. Finally, Elliott loads new control characters which define label content. Again, no new externally generated program is executed.

For the above reasons, the applicants respectfully assert that claims 1-15 and claims 19 –26 are patentable under 35 U.S.C. § 102(b).

B. Claim 16:

Claim 16 is directed to an optical reader that includes a communications interface that is adapted to communicate with an external device. Claim 16 recites an imaging assembly for scanning optically encoded symbols and a processor for decoding symbols. The processor also is configured to load an externally generated program via the communications device.

Neither Elliott nor Poland anticipate claim 16 because they do not teach the step of loading an externally generated program via a communications interface. Both Poland and Elliott load a limited amount of control data via the bar code scanner. Furthermore, Elliott teaches away from the present invention because he states that it is not desirable to load control characters into the scanner by way of the host. Haydon does not anticipate because Haydon does not teach scanner reconfiguration whatsoever. Haydon merely teaches a method for loading new plug-in data. Further, neither of the cited references execute the externally generated program to perform a new task. Haydon's scanner processes plug-in units before and after the data is loaded. Elliott's scanner is used at retail check out counters before and after the data is loaded. Poland reads bar code tags to change operating characteristics and to control the bar code reader, however, it does not execute an externally generated program to perform a new task.

For the above reasons, the applicants respectfully assert that claims 16-18 are patentable under 35 U.S.C. § 102(b).

Claim 34:

As described above, claim 34 is directed to a reprogrammable optical reader system that includes a programming source having at least one software program. The at least one software program corresponds to a predetermined task. The Examiner has not pointed out where in any of the cited references a programming source having at least one software program can be found.

Claim 34 also recites a transmission facility that is coupled to the programming source, the transmission facility being configured to transmit the at least one software program to an optical reader. As discussed above, neither Poland nor Elliott disclose a transmission facility. While Haydon describes a serial communications link, Haydon teaches a method for transmitting plug-in data to a remote scanner. Haydon is not equipped to transmit complete software programs via the serial data link.

Claim 34 also recites an optical reader that is coupled to the transmission facility. The optical reader receives and executes the at least one software program to thereby perform the predetermined task. As discussed in great detail above, neither Poland, Haydon, nor Elliott teach this claim element.

For the above reasons, the applicants respectfully assert that claims 34-43 are patentable under 35 U.S.C. § 102(b).

Claim 44:

Neither Poland, Haydon, nor Elliott are directed to a method for reprogramming a first optical reader to perform a task performed by a second optical reader. As recited in claim 44, the second optical reader is programmed to perform the task by a parameter table resident in the second optical reader. Neither Poland, Haydon, nor Elliott teach, suggest, or disclose a second optical reader.

Haydon clearly does not anticipate this claim because Haydon does not teach the use of a bar code symbol to reconfigure a scanner. Haydon merely loads plug-in data.

Poland employs bar code symbols to reconfigure a bar code scanner. However, only operating characteristics, such as changing the baud rate, can be accomplished in a single scan. Relatively complex reconfiguration must be performed using multiple scans.

In Elliott the scanner is reprogrammed to distinguish new pairs of labels. Thus, Elliott is not directed to a method for reprogramming a first optical reader to perform a task performed by a second optical reader.

Further, neither Poland, Haydon nor Elliott teach, suggest or disclose the step of providing an optically encoded menu symbol corresponding to the parameter table, as recited in claim 44. In other words, neither Poland, Haydon nor Elliott teach a method of downloading the parameter table from the second scanner, encoding the table as a bar code symbol, and printing the bar code symbol.

Because neither Poland, Haydon, nor Elliott teach, suggest, or disclose a second optical reader parameter table, none of the cited references teach the steps of scanning and decoding the optically encoded menu symbol with the first optical reader to thereby load the second optical reader parameter table into the first optical reader.

For the above reasons, the applicants respectfully assert that claims 44-45 are patentable under 35 U.S.C. § 102(b).

2. § 103 Rejections

The Examiner has rejected claims 3-15, 17-18, 20-33, 35-43, and 45 under 35 U.S.C. § 103 as being unpatentable for obviousness over Poland, Haydon, and Elliott in view of U.S. Patent No. 5,157,687 to Tymes, U.S. Patent NO. 5,793,029 to Goodwin III[hereinafter Goodwin], U.S. Patent No. 5,496,992 to Madan et al.[hereinafter Madan], and U.S. Patent No. 5,212,369 to Karlisch et al.[hereinafter Karlisch]. The applicants respectfully traverses

the rejection because the Examiner has failed to make a *prima facie* case of obviousness because the cited references do not teach or suggest all of the claim limitations.

Independent claims 1, 16, 19, 34, and 44 were discussed above.

Independent claim 27 is directed to a set of program interfaces that are tangibly embodied on a computer-readable medium. The program interfaces are executable on a computer in conjunction with a computer program that controls an optical reader. The set of program interfaces include a first interface that receives a load command, and program code from an externally generated program. The interface returns an acknowledgment indicating whether the externally generated program was successfully loaded. A second interface receives the acknowledgment. The second interface directs the computer to execute the externally generated program in response to the acknowledgment.

The teachings of Poland, Haydon and Elliott were discussed in detail above. Neither of these references teach or suggest any of the claim elements of claim 27, nor of dependent claims 28-33.

Tymes teaches a wireless packet communications network that is used to link a plurality of optical readers. The network is configured such that remote optical reader in a retail or commercial setting can send data that is gathered by the readers to a central station.

Goodwin is directed to an electronic price label (EPL) system that employs a 2D bar code reader and an overlay device. The overlay device includes a display area and a picture of the product. The bar code symbol is affixed to a surface of the overlay. When the 2D bar code is scanned by the optical reader, the display area of the EPL system provides information, such as price or an on-sale status.

Karlisch is directed to a method and system for using memory cards, which are commonly known in the art as "smart cards." The system includes a smart card reader that is equipped with a microprocessor. When a smart card is inserted into the reader, the smart card reader connects to a server by telephone. The reader obtains an application pointer from the center. The pointer corresponds to a command which the reader interprets. The reader finds the application program stored on the card that corresponds to the pointer and executes the program.

Madan teaches a wireless data entry terminal that includes both an optical scanner and a keypad data entry system. The data entry terminal is in communications with a host computer. A data entry program is downloaded from the host to the terminal. The program

includes tables defining the data entry keys. Data entered via the keys and the scanner may be up-loaded to the host via the wireless link.

According to the **MPEP 2143**, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

A. The prior art references do not teach or suggest all the claim limitations.

Claims 3-15, 17-18, 20-26, 35-43, and 45:

Claims 3-15 depend from claim 1 and claims 20-26 depend from claim 19. As clearly demonstrated above, neither Poland, Haydon, nor Elliott teach all of the claim limitation of claim 1 or claim 19. Specifically, these references do not disclose optical readers that are adapted to loading an externally generated program and executing the externally generated program. The Examiner has not pointed out where either Tymes, Goodwin, Madan, or Karlisch provide the claim elements missing from Poland, Haydon, or Elliott. Thus, the cited combined references cannot possibly teach or suggest all the claim limitations of claims 3-15 and 20-26.

For the above reasons, the applicants respectfully assert that claims 3-15 and 20-26 are patentable under 35 U.S.C. § 103(a).

Claims 17-18 depend from claim 16. Again, as demonstrated above, neither Poland, Haydon, nor Elliott teach all of the claim limitation of claim 16. Specifically, these references do not teach the step of loading an externally generated program into an optical reader via a communications interface. The Examiner has not pointed out where either Tymes, Goodwin, Madan, or Karlisch provide the claim elements missing from Poland, Haydon, or Elliott. Thus, the cited combined references cannot teach or suggest all the claim limitations of claims 17-18.

For the above reasons, the applicants respectfully assert that claims 17-18 are patentable under 35 U.S.C. § 103(a).

Claims 35-43 depend from claim 34. In the discussion of the rejection of claim 34 under 35 U.S.C. § 102(b), the applicants pointed out that neither Poland, Haydon, nor Elliott teach all of the claim limitation of claim 34. Specifically, these references do not teach a programming source having at least one software program, a transmission facility that is configured to transmit the at least one software program from the programming source to an optical reader, or an optical reader that is configured to receive the at least one software program from the transmission facility and to execute the at least one software program to thereby perform a predetermined task. The Examiner has not pointed out where either Tymes, Goodwin, Madan, or Karlisch provide the claim elements missing from Poland, Haydon, or Elliott. Thus, the cited combined references cannot teach or suggest all the claim limitations of claims 35-43.

For the above reasons, the applicants respectfully assert that claims 35-43 are patentable under 35 U.S.C. § 103(a).

Claim 45 depends from claim 44. The applicants have pointed out in one of the above discussions that neither Poland, Haydon, nor Elliott teach all of the claim limitation of claim 44. Specifically, these references do not teach a second optical reader that is programmed to perform a task by use of a parameter table resident in the second optical reader, a step of providing an optically encoded menu symbol corresponding to the parameter table residing in the second optical reader, or the steps of scanning/decoding the optically encoded menu symbol, with the first optical reader, to thereby load the second optical reader parameter table into the first optical reader. Thus, the cited combined references cannot teach or suggest all the claim limitations of claim 45.

For the above reasons, the applicants respectfully assert that claim 45 is patentable under 35 U.S.C. § 103(a).

Claims 27-33:

The applicants note that the Examiner has failed to individually discuss independent claim 27 or dependent claims 28-33. It is the Examiner's duty to point out where in the references all of the claim elements may be found. He has not done so. Thus, he has failed to make a *prima facie* case of obviousness.

Claim 27 is directed to a set of program interfaces that are tangibly embodied on a computer-readable medium. The examiner has failed to point out where this subject matter can be found in any of the cited references.

None of the cited references, whether taken alone or in combination teach or suggest program interfaces that are executable on a computer in conjunction with a computer program that controls an optical reader. The examiner has failed to point out where this subject matter can be found in the cited references.

None of the cited references, whether taken alone or in combination teach or suggest a set of program interfaces that include a first interface that receives a load command, and program code from an externally generated program. The examiner has failed to point out where this subject matter can be found in the cited references.

None of the cited references, whether taken alone or in combination teach or suggest a program interface that returns an acknowledgment indicating whether the externally generated program was successfully loaded. The examiner has failed to point out where this subject matter can be found in the cited references.

None of the cited references, whether taken alone or in combination teach or suggest a second interface receives the acknowledgment, and directs the computer to execute the externally generated program in response to the acknowledgment. The examiner has failed to point out where this subject matter can be found in the cited references.

For the above reasons, the applicants respectfully assert that claims 3-15, 17-18, 20-33, 35-43, and 45 are patentable under 35 U.S.C. § 103(a).

B. There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

The Examiner has not pointed out why the cited references should be deemed combinable. The aforementioned suggestion or motivation must be found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. It is the Examiner's duty to point out where the suggestion or motivation is to combine reference teachings. He has not done so. Thus, a prima facie case of obviousness has not been established.

For the above reasons, the applicants respectfully assert that claims 3-15, 17-18, 20-33, 35-43, and 45 are patentable under 35 U.S.C. § 103(a).

3. Conclusion

Based upon the above remarks and papers of record, Applicants believe the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicants respectfully request reconsideration of the pending claims 1-45 and a prompt Notice of Allowance thereon.

Applicants believe that no extension of time is necessary to make this Response timely. Should Applicants be in error, Applicants respectfully request that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Response timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 50-0289.

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